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May 18, 2006

Mail Stop Amendment Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Re:

U.S. Application No. 10/569,076

Filed: February 21, 2006

Title: Fusion Polypeptides and Use Thereof In Antivascular

Tumor-Therapy

Applicants: Wolfgang E. BERDEL *et al.* Atty. Docket: 20490.003/P30712US00

Sir:

The following documents are forwarded herewith for appropriate action by the U.S. Patent and Trademark Office (PTO):

- 1. an Information Disclosure Statement;
- 2. a Form PTO-1449 (listing and supplying 45 references); and
- 3. a return postcard.

Please stamp the attached postcard with the filing date of these documents and return it to our courier.

Applicants do not believe any fees are due in conjunction with this filing. However, if any fees are required in the present application, including any fees for extensions of time, then the Commissioner is hereby authorized to charge such fees to Arnold & Porter LLP Deposit Account No. 50-2387 referencing matter number 20490.003. A duplicate copy of this letter is enclosed.

Respectfully submitted,

David R. Marsh (Reg. No. 41,408)

Kristan L. Lansbery (Reg. No. 53,183)

Kristan Landem

**Enclosures** 



## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Wolfgang E. BERDEL et al. Art Unit: To Be Assigned

Appl. No.: 10/569,076 Examiner: To Be Assigned

Filed: February 21, 2006 Confirmation No. To Be Assigned

For: Fusion Polypeptides and Use Thereof Atty Docket. 20490.003/P30712US00

in Antivascular Tumor-Therapy

## **Information Disclosure Statement**

Mail Stop Amendment Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Dear Sir:

The attention of the Examiner is invited to consider the references listed on the attached Form PTO-1449. Copies of the references are submitted herewith.

It is respectfully requested that the information above be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

## Certification and/or Fee

Because this Information Disclosure Statement is being submitted prior to issuance of the first action on the merits of the above-captioned application, no certification or fee is required.

Respectfully submitted,

David R. Marsh (Reg. No. 41,408)

Kristan Sanser

Kristan L. Lansbery (Reg. No. 53,183)

Date: May 18, 2006

ARNOLD & PORTER LLP 555 Twelfth Street, N.W. Washington, D.C. 20004-1206 (202) 942-5000 telephone (202) 942-5999 facsimile

Page 1 of 4 APPLICATION NO. ATTY. DOCKET NO. 20490.003 10/569,076 APPLICANTS FORM PTO-1449 ORMATION DISCLOSURE STATEMENT Wolfgang E. BERDEL et al. FILING DATE GROUP February 21, 2006 To Be Assigned U.S. PATENT DOCUMENTS **EXAMINER** DOCUMENT SUB-INITIAL **NUMBER** DATE **CLASS CLASS** NAME FILING DATE AA1 AB1 FOREIGN PATENT DOCUMENTS **EXAMINER** DOCUMENT SUB-INITIAL NUMBER DATE **COUNTRY CLASS CLASS TRANSLATION** Yes AC1 WO 03/035688 A 05/2003 **WIPO** No Yes AD1 No OTHER (Including Author, Title, Date, Pertinent Pages, etc.) Arap et al., "Cancer Treatment by Targeted Drug Delivery to Tumor Vasculature in a Mouse Model", Science AE1 279:377-380 (1998) Banner et al., "The Crystal Structure of the Complex of Blood Coagulation Factor VIIa with Soluble Tissue AFI Factor", Nature 380:41-46 (1996) Bhagwa et al., "CD13/APN is Activated by Angiogenic Signals and is Essential for Capillary Tube Formation", AG1 Blood 97(3):652-659 (2001) AHI Brooks et al., "Requirement of Vascular Integrin α<sub>v</sub>β<sub>3</sub> for Angiogenesis", Science 264:569-571 (1994) Brooks et al., "Integrin  $\alpha_v \beta_3$  Antagonists Promote Tumor Regression by Inducing Apoptosis of Angiogenic Blood AII Vessels", Cell 79:1157-1164 (1994) Brooks et al., "Localization of Matrix Metalloproteinase MMP-2 to the Surface of Invasive Cells by Interaction AJ1 with Integrin  $\alpha_v \beta_3$ ", Cell 85:683-693 (1996) Brooks et al., "Disruption of Angiogenesis by PEX, a Noncatalytic Metalloproteinase Fragment with Integrin AK1

EXAMINER	DATE CONSIDERED

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Burg et al., "NG2 Proteoglycan-Binding Peptides Target Tumor Neovasculature", Cancer Research 59:2869-2874

Burrows et al., "Up-Regulation of Endoglin on Vascular Endothelial Cells in Human Solid Tumors: Implications

Binding Activity", Cell, 92:391-400 (1998)

ALl

AMI

(1999)

**EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

		ATTY. DOCKET NO.	APPLICATION NO.
		20490.003	10/569,076
	FORM PTO-1449	APPLICANTS	1
INFORMATIO	ON DISCLOSURE STATEMENT	Wolfgang E. BERDEL et al.	
		FILING DATE	GROUP
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ANI	Carnemolla et al., "A Tumor-associated Fibronectin Isoform Generated by Alternative Splicing of Messenger RNA Precursors", The Journal of Cell Biology 108:1139-1148 (1989)		ated by Alternative Splicing of Messenger RNA
AOI	Curnis et al., "Enhancement of Tumor Necrosis Factor α Antitumor Immunotherapeutic Properties by Targeted Delivery to Aminopeptidase N (CD13)", Nature Biotechnology 18:1185-1190 (2000)		
API	Curnis et al., "Differential Binding of Drugs Containing the NGR Motif to CD13 Isoforms in Tumor Vessels, Epithelia, and Myeloid Cells", Cancer Research 62:867-874 (2002)		
AQI	Dvorak et al., "Distribution of Vascular Permeability Factor (Vascular Endothelial Growth Factor) in Tumors: Concentration in Tumor Blood Vessels", J. Exp Med. 174:1275-1278 (1991)		
ARI	Dvorak et al., "Vascular Permeability Factor/Vascular Endothelial Growth Factor, Microvascular Hyperpermability, and Angiogenesis", American Journal of Pathology, 146(5):1029-1039 (1995)		
ASI	Ellerby et al., "Anti-Cancer Activity of Targeted Pro-Apoptotic Peptides", Nature Medicine, 5(9):1032-1038 (1999)		
ATI	Folkman et al., "Induction of Angiogenesis During the Transition from Hyperplasia to Neoplasia", Nature 339:58-61 (1989)		
AUI	Gottstein et al., "Generation and Characterization of Recombinant Vascular Targeting Agents from Hybridoma Cell Lines", BioTechniques 30(1):190-199 (2001)		
AVI	Healy et al., "Peptide Ligands for Integrn α <sub>ν</sub> β <sub>3</sub> Selected from Random Phage Display Libraries", Biochemistry 34:3948-3955 (1995)		
AWI	Hu et al., "Comparison of Three Different Targeted Tissue Factor Fusion Proteins for Inducing Tumor Vessel Thrombosis", Cancer Research 63:5046-5053 (2003)		
AXI	Huang et al., "Tumor Infarction in Mice by Antibody-directed Targeting of Tissue Factor to Tumor Vasculature", Science 275:547-550 (1997)		
AYI	International Search Report of PCT/EP2004/009364 mailed February 23, 2005.		
AZI	Koivunen et al., "Selection of Peptides Binding to the $\alpha_5\beta_1$ Integrin from Phage Display Library", The Journal of Biological Chemistry, 268(27):20205-20210 (1993)		

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AA2	Koivunen et al., "Tumor Targeting with a Selective Gelatinase Inhibitor", Nature Biotechnology 17:768-774 (1999)		
AB2	Liu et al., "Prostate-specific Membrane Antigen Directed Selective Thrombotic Infarction of Tumors", Cancer Research 62:5470-5475 (2002)		
AC2	Maisonpierre et al., "Angiopoietin-2, a Natural Antagonist for Tie2 That Disrupts In Vivo Angiogenesis", Science 277:55-60 (1997)		
AD2	Morrissey et al., "Quantitation of Activated Factor VII Levels in Plasma Using a Tissue Factor Mutant Selectively Deficient in Promoting Factor VII Activation", Blood 81(3):734-744 (1993)		
AE2	Nilsson et al., "Targeted Delivery of Tissue Factor to the ED-B Domain of Fibronectin, a Marker of Angiogenesis, Mediates the Infarction of Solid Tumors in Mice", Cancer Research 61:711-716 (2001)		
AF2	Olsen et al., "Targeting the Tumor Vasculature: Inhibition of Tumor Growth by a Vascular Endothelial Growth Factor-Toxin Conjugate", Int. J. Cancer 73:865-870 (1997)		
AG2	Pasqualini et al., "Aminopeptidase N Is a Receptor for Tumor-homing Peptides and a Target for Inhibiting Angiogenesis", Cancer Research 60:722-727 (2000)		
AH2	Peters et al., "Expression of Tie2/Tek in Breast Tumour Vasculature Provides a New Marker for Evaluation of Tumour Angiogenesis", British Journal of Cancer 77(1):51-56 (1998)		
AI2	Ran et al., "Infarction of Solid Hodgkin's Tumors in Mice by Antibody-directed Targeting of Tissue Factor to Tumor Vascularture", Cancer Research 58:4646-4653 (1998)		
AJ2	Rettig et al., "Identification of Endosialin, a Cell Surface Glycoprotein of Vascular Endothelial Cells in Human Cancer", Proc. Natl. Acad. Sci. USA 89:10832-10836 (1992)		
AK2	Rippmann et al., "Fusion of the Tissue Factor Extracellular Domain to a Tumour Stromaspecific Single-Chain Fragment Variable Antibody Results in an Antigen-Specific Coagulation-Promoting Molecule", Giochemical Journal 349(3):805-812 (2000)		
AL2	Ruf et al., "Phospholipid-independent and -dependent Interactions Required for Tissue Factor Receptor and Cofactor Function", The Journal of Biological Chemistry, 266(4):2158-2166 (1991)		
AM2	Ruoslahti, "Targeting Tumor Vasculature with Homing Peptides from Phage Display", Seminars in Cancer Biology 10:435-442 (2000)		

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AN2	Scholz et al., "Correlation of Drug Response in Patients and in the Clonogenic Assay with Solid Human Tumour Xenografts", Eur J. Cancer 26(8):901-905 (1990)		Clonogenic Assay with Solid Human Tumour
AO2	Schnürch et al., "Expression of tie-2, a Member of a Novel Family of Receptor Tyrosine Kinases, In the Endothelial Cell Lineage", Development 119:957-968 (1993)		
AP2	Schrappe et al., "Correlation of Chondroitin Sulfate Proteoglycan Expression on Proliferating Brain Capillary Endothelial Cells with the Malignant Phenotype of Astroglial Cells", Cancer Research 51:4986-4993 (1991)		
AQ2	Senger et al., "Angiogenesis Promoted by Vascular Endothelial Growth Factor: Regulation Through $\alpha_1\beta_1$ and $\alpha_2\beta_1$ Integrins", Proc. Natl. Acad. Sci. USA 94:13612-13617 (1997)		
AR2	Suri et al., "Requisite Role of Angiopoietin-1, a Ligand for the TIE2 Receptor, During Embryonic Angiogenesis", Cell 87:1171-1180 (1996)		
AS2	Terman et al., "Biological Properties of VEGF/VPF Receptors", Cancer and Metastasis Reviews 15:159-163 (1996)		
AT2	Topp et al., "Recombinant Human Interleukin-4 Inhibits Growth of Soe Human Lung Tumor Cell Lines In Vitro and In Vivo", Blood 82(9):2837-2844 (1993)		
AU2	Topp et al., "Recombinant Human Interleukin 4 Has Antiproliferative Activity on Human Tumor Cell Lines Derived from Epithelial and Nonepithelial Histologies", Cancer Research 55:2173-2176 (1995)		
AV2	Yun et al., "Involvement of Integrin α <sub>ν</sub> β <sub>3</sub> in Cell Adhesion, Motility, and Liver Metastasis of Murine RAW117 Large Cell Lymphoma", Cancer Research 56:3103-3111 (1996)		
AW2			

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